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# SYNTHETIC PROCESS, SPECTROSCOPIC CHARACTERIZATION AND ANTIMICROBIAL ACTIVITIES OF NITROIMIDAZOLES DERIVATIVES

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Nitroimidazoles are well recognized as antibacterial agents having a wide range of biological activities such as anticancer, antifungal, antibacterial, antitubercular etc. Nowadays, various drugs are available which belongs to the nitroimidazole class such as secnidazole (Flagentyl), metronidazole (Flagyl), ornidazole (Xynor), tinidazole (Fasigyn) and others. Our group has worked on Pro and Co-drug synthesis of Secnidazole which is an efficient drug in the treatment of protozoal infections along with regio-specific nitration process of substituted imidazole. A summary of our published work is as under: 1) Regio-specific synthesis of 1-methyl-4-nitro-1H-imidazole: crystal structure, spectroscopic properties and antimicrobial activities. 2) Esterification of secnidazole: simple low-cost and less toxic method. 3) Crystal formation and structure determination: a) 2-[[1-(2-methyl-5-nitro-1H-imidazol-1-yl) propan-2-yloxy] carbonyl] benzoic acid. b) 1-(2-Methyl-5-nitro-1H-imidazol-1-yl) propan-2-yl acetate. Key synthetic process, spectroscopic characterization and antimicrobial activities performed in the above mentioned work will be presented in this important scientific event.

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